

# Space Nutrition

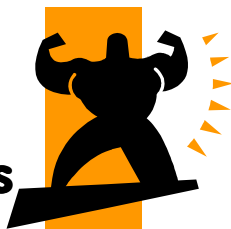


Volume 2

Countdown to Launch

Issue #4

## Body Basics



As the word "musculoskeletal" suggests, muscles and bones are important parts of the musculoskeletal system. Other parts of this system are the joints, cartilage, tendons, and ligaments. Together, these make up the body's framework and allow us to move, stand, and stretch. Good nutrition is important for maintaining the musculoskeletal system.

## Curiosity Corner



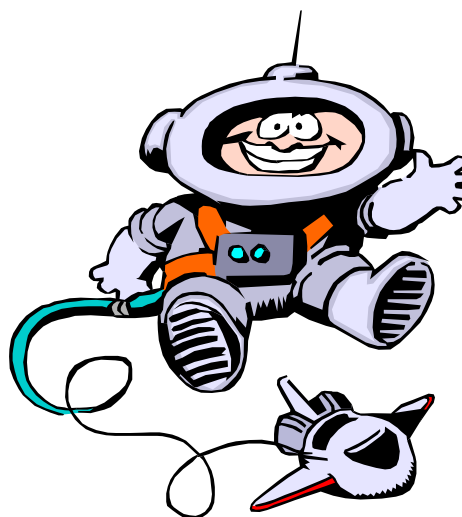
*Elizabeth from PA asks -*

While astronauts are in space, do they have to stay away from certain foods?

Although the foods on the Shuttle are very similar to those we eat on Earth, some foods are not suitable for space flight. An example is foods that make lots of crumbs. Crumbs can float in the air and clog important equipment. Other foods to avoid are those that spoil quickly at room temperature or generate lots of trash.

We are in the final weeks of preparation for the STS-107 mission in January! Even during the holidays, there is a lot to do to get ready for the flight.

At the Kennedy Space Center in Florida, preparations are underway for launch. Inside the huge Vehicle Assembly Building (VAB), the Shuttle Columbia will be lifted and attached to the external tank (the big orange tank) and the two solid rocket boosters (the white rockets on either side of the Shuttle at launch). This assembled vehicle is transferred (very slowly) from the VAB out to the launch pad. The trip of only a few miles takes almost 8 hours to complete!



Meanwhile, at the Johnson Space Center in Houston, the crew continues to work and train. One training session with the crew is called "Terminal Countdown Demonstration Test" or TCDT. During the TCDT, the crew travels to Florida about 2 to 3 weeks before launch and practices every step required for launch day - up until just seconds before launch.

A week before flight, the crew will begin to "sleep shift" according to the planned time of launch and their work schedule. At this time they will start a limited "quarantine" period, when exposure to people is limited to reduce risks of illness before and during flight.

## Did you know?

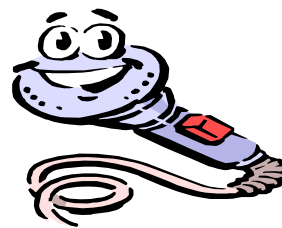
- The VAB is one of the largest buildings in the world. At 525 ft, it is taller than the Statue of Liberty (305 ft tall), and has a larger volume than the Pentagon. It is 3.75 times the size of the Empire State building. The VAB would give King Kong quite a climb.
- The STS-107 crew has been assigned to two shifts, so that science activities on the Shuttle can continue 24 hours a day. These two shifts are called the Red Team and Blue Team.
- Calcium Kinetics and Protein Turnover experiments on STS-107 will help us understand what happens to the musculoskeletal system on orbit.
- STS-113 just returned. Scientists and engineers will evaluate the vehicle and mission to be sure that any factors from STS-113 that may affect STS-107 are considered.
- We are at about 30 days (L-30) before the launch of STS-107!



## Word of the Month

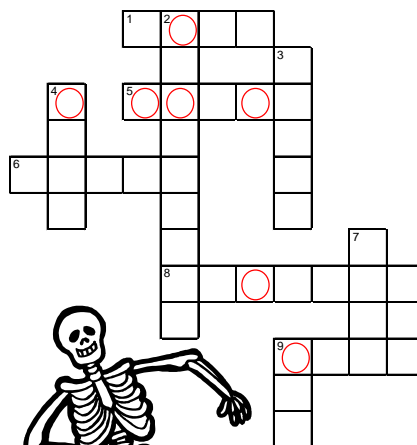
**Ascent**

Can you guess what this word means? Look for the meaning of the "Word of the Month" in the next issue of Space Nutrition



## FUN CORNER

Complete the crossword and rearrange the circled letters to solve the puzzle



### Across

- 1 Terminal Countdown Demonstration Test
- 5 The Apollo astronauts collected \_\_\_\_\_ samples
- 6 Shuttle's path
- 8 Expedition 5 astronaut
- 9 The International Space Station has a 3-person \_\_\_\_\_

### Down

- 2 Three-Two-One- Launch
- 3 The astronauts \_\_\_\_\_ for several months before a mission
- 4 The red planet
- 7 Spine or back-\_\_\_\_\_
- 9 Crew Transport Vehicle



The major mineral of the musculoskeletal system

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Check out these cool NASA links for more fun space science facts:

<http://virtualastronaut.jsc.nasa.gov>  
<http://lsda.jsc.nasa.gov>  
<http://www.nasa.gov/kids.html>  
<http://www.spaceflight.nasa.gov>  
<http://spaceresearch.nasa.gov>



Check out the Nutritional Biochemistry Laboratory's website for more information about nutrition and space.

<http://www.jsc.nasa.gov/sa/sd/facility/nutrition.htm>